

SEQUENCE LISTING

<110> Baum, Peter R.
Fanslow III, William C

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<140> US 09/778,187

<141> 2001-02-06

<150> PCT/US99/17905

<151> 1999-08-05

<150> US 60/095,672

<151> 1998-08-07

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<170> PatentIn version 3.1

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ctg ctg ttg ctc ttc tcc gcc gcg gca ctg atc ccc aca ggt gat ggg	147
Leu Leu Leu Leu Phe Ser Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly	
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Gln Asn Leu Phe Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala	
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acc atc agt tgc caa gtc aat aag agt gac gac tct gtg att cag cta	243
Thr Ile Ser Cys Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln Leu	
65 70 75	
ctg aat ccc aac agg cag acc att tat ttc agg gac ttc agg cct ttg	291
Leu Asn Pro Asn Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu	
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aag gac agc agg ttt cag ttg ctg aat ttt tct agc agt gaa ctc aaa	339
Lys Asp Ser Arg Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys	
95 100 105	

gta tca ttg aca aac gtc tca att tct gat gaa gga aga tac ttt tgc	387
Val Ser Leu Thr Asn Val Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys	
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Gln Leu Tyr Thr Asp Pro Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val	
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Val Glu Gly Glu Glu Ile Glu Val Asn Cys Thr Ala Met Ala Ser Lys	
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Pro Ala Thr Thr Ile Arg Trp Phe Lys Gly Asn Thr Glu Leu Lys Gly	
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Lys Ser Glu Val Glu Glu Trp Ser Asp Met Tyr Thr Val Thr Ser Gln	
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ctg atg ctg aag gtg cac aag gag gac gat ggg gtc cca gtg atc tgc	675
Leu Met Leu Lys Val His Lys Glu Asp Asp Gly Val Pro Val Ile Cys	
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Gln Val Glu His Pro Ala Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr	
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cta gaa gta cag tat aag cct caa gtg cac att cag atg act tat cct	771
Leu Glu Val Gln Tyr Lys Pro Gln Val His Ile Gln Met Thr Tyr Pro	
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cta caa ggc tta acc cgg gaa ggg gac gcg ctt gag tta aca tgt gaa	819
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Asp Glu Met Pro Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe Ile	
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Asn Asn Leu Asn Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser	
305 310 315	
aac ata gtg ggg aaa gct cac tcg gat tat atg ctg tat gta tac gat	1011
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Pro Pro Thr Thr Ile Pro Pro Pro Thr Thr Thr Thr Thr Thr Thr	
335 340 345	
acc acc acc acc acc atc ctt acc atc atc aca gat tcc cga gca ggt	1107

Thr Thr Thr Thr Thr Ile Leu Thr Ile Ile Thr Asp Ser Arg Ala Gly
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 Arg Tyr Phe Ala Arg His Lys Gly Thr Tyr Phe Thr His Glu Ala Lys
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 gga gcc gat gac gca gca gac gca gac aca gct ata atc aat gca gaa 1299
 Gly Ala Asp Asp Ala Ala Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu
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 35 40 45
 Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala Thr Ile Ser Cys
 50 55 60
 Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu Asn Pro Asn
 65 70 75 80
 Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg
 85 90 95
 Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys Val Ser Leu Thr
 100 105 110

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Arg	Asn	Leu	Met	Ile	Asp	Ile	Gln	Lys	Asp	Thr	Ala	Val	Glu	Gly	Glu	145	150	155	160
Glu	Ile	Glu	Val	Asn	Cys	Thr	Ala	Met	Ala	Ser	Lys	Pro	Ala	Thr	Thr	165	170	175	
Ile	Arg	Trp	Phe	Lys	Gly	Asn	Thr	Glu	Leu	Lys	Gly	Lys	Ser	Glu	Val	180	185	190	
Glu	Glu	Trp	Ser	Asp	Met	Tyr	Thr	Val	Thr	Ser	Gln	Leu	Met	Leu	Lys	195	200	205	
Val	His	Lys	Glu	Asp	Asp	Gly	Val	Pro	Val	Ile	Cys	Gln	Val	Glu	His	210	215	220	
Pro	Ala	Val	Thr	Gly	Asn	Leu	Gln	Thr	Gln	Arg	Tyr	Leu	Glu	Val	Gln	225	230	235	240
Tyr	Lys	Pro	Gln	Val	His	Ile	Gln	Met	Thr	Tyr	Pro	Leu	Gln	Gly	Leu	245	250	255	
Thr	Arg	Glu	Gly	Asp	Ala	Leu	Glu	Leu	Thr	Cys	Glu	Ala	Ile	Gly	Lys	260	265	270	
Pro	Gln	Pro	Val	Met	Val	Thr	Trp	Val	Arg	Val	Asp	Asp	Glu	Met	Pro	275	280	285	
Gln	His	Ala	Val	Leu	Ser	Gly	Pro	Asn	Leu	Phe	Ile	Asn	Asn	Leu	Asn	290	295	300	
Lys	Thr	Asp	Asn	Gly	Thr	Tyr	Arg	Cys	Glu	Ala	Ser	Asn	Ile	Val	Gly	305	310	315	320
Lys	Ala	His	Ser	Asp	Tyr	Met	Leu	Tyr	Val	Tyr	Asp	Pro	Pro	Thr	Thr	325	330	335	
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Thr	Ile	Leu	Thr	Ile	Ile	Thr	Asp	Ser	Arg	Ala	Gly	Glu	Glu	Gly	Ser	355	360	365	
Ile	Arg	Ala	Val	Asp	His	Ala	Val	Ile	Gly	Gly	Val	Val	Ala	Val	Val	370	375	380	
Val	Phe	Ala	Met	Leu	Cys	Leu	Leu	Ile	Ile	Leu	Gly	Arg	Tyr	Phe	Ala	385	390	395	400
Arg	His	Lys	Gly	Thr	Tyr	Phe	Thr	His	Glu	Ala	Lys	Gly	Ala	Asp	Asp	405	410	415	
Ala	Ala	Asp	Ala	Asp	Thr	Ala	Ile	Ile	Asn	Ala	Glu	Gly	Gly	Gln	Asn	420	425	430	

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 Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly Gln Asn Leu Phe Thr Lys
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 gac gtg aca gtg att gaa gga gaa gtg gca acc atc agc tgc cag gtc 145
 Asp Val Thr Val Ile Glu Gly Glu Val Ala Thr Ile Ser Cys Gln Val
 35 40 45
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 Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu Asn Pro Asn Arg Gln
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 acc att tac ttc agg gac ttc agg cct ttg aag gac agc agg ttt cag 241
 Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg Phe Gln
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 85 90 95
 tca atc tcg gat gaa ggg aga tac ttc tgc cag ctc tac acg gac ccc 337
 Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys Gln Leu Tyr Thr Asp Pro
 100 105 110
 cca cag gag agt tac acc acc atc aca gtc ctg gtt cct cca cgt aac 385
 Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val Leu Val Pro Pro Arg Asn
 115 120 125
 ttg atg atc gat atc cag aaa gac acg gca gtt gaa ggg gag gag att 433
 Leu Met Ile Asp Ile Gln Lys Asp Thr Ala Val Glu Gly Glu Glu Ile
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 Glu Val Asn Cys Thr Ala Met Ala Ser Lys Pro Ala Thr Thr Ile Arg
 145 150 155 160
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 Trp Phe Lys Gly Asn Lys Glu Leu Lys Gly Lys Ser Glu Val Glu Glu
 165 170 175
 tgg tcg gac atg tac act gtg acc agt cag ctg atg ctg aag gtg cac 577
 Trp Ser Asp Met Tyr Thr Val Thr Ser Gln Leu Met Leu Lys Val His
 180 185 190

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Lys Glu Asp Asp Gly Val Pro Val Ile Cys Gln Val Glu His Pro Ala	
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gtc act gga aac ctg cag acc cag cgc tat cta gaa gtg cag tat aaa	673
Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr Leu Glu Val Gln Tyr Lys	
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Pro Gln Val His Ile Gln Met Thr Tyr Pro Leu Gln Gly Leu Thr Arg	
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His Ser Asp Tyr Met Leu Tyr Val Tyr Asp Pro Pro Thr Thr Ile Pro	
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Glu Glu Lys Lys Glu Tyr Phe	
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 Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu Asn Pro Asn Arg Gln
 50 55 60
 Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg Phe Gln
 65 70 75 80
 Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys Val Ser Leu Thr Asn Val
 85 90 95
 Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys Gln Leu Tyr Thr Asp Pro
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 Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val Leu Val Pro Pro Arg Asn
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 Leu Met Ile Asp Ile Gln Lys Asp Thr Ala Val Glu Gly Glu Glu Ile
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 Glu Val Asn Cys Thr Ala Met Ala Ser Lys Pro Ala Thr Thr Ile Arg
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 Trp Phe Lys Gly Asn Lys Glu Leu Lys Gly Lys Ser Glu Val Glu Glu

165					170					175					
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Val	Thr	Gly	Asn	Leu	Gln	Thr	Gln	Arg	Tyr	Leu	Glu	Val	Gln	Tyr	Lys
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	225					230					235				240
Glu	Gly	Asp	Ala	Phe	Glu	Leu	Thr	Cys	Glu	Ala	Ile	Gly	Lys	Pro	Gln
			245						250					255	
Pro	Val	Met	Val	Thr	Trp	Val	Arg	Val	Asp	Asp	Glu	Met	Pro	Gln	His
			260					265					270		
Ala	Val	Leu	Ser	Gly	Pro	Asn	Leu	Phe	Ile	Asn	Asn	Leu	Asn	Lys	Thr
		275					280					285			
Asp	Asn	Gly	Thr	Tyr	Arg	Cys	Glu	Ala	Ser	Asn	Ile	Val	Gly	Lys	Ala
	290					295					300				
His	Ser	Asp	Tyr	Met	Leu	Tyr	Val	Tyr	Asp	Pro	Pro	Thr	Thr	Ile	Pro
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Pro	Pro	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Ile
			325					330						335	
Leu	Thr	Ile	Ile	Thr	Asp	Ser	Arg	Ala	Gly	Glu	Glu	Gly	Thr	Ile	Gly
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Lys	Gly	Thr	Tyr	Phe	Thr	His	Glu	Ala	Lys	Gly	Ala	Asp	Asp	Ala	Ala
	385					390					395				400
Asp	Ala	Asp	Thr	Ala	Ile	Ile	Asn	Ala	Glu	Gly	Gly	Gln	Asn	Asn	Ser
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 gccagcgccc agccagggag ccggccggga agcgcg atg ggg gcc cca gcc gcc 174
 Met Gly Ala Pro Ala Ala
 1 5
 tcg ctc ctg ctc ctg ctc ctg ctc ttc gcc tgc tgc tgg gcg ccc ggc 222
 Ser Leu Leu Leu Leu Leu Leu Phe Ala Cys Cys Trp Ala Pro Gly
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 ggg gcc aac ctc tcc cag gac ggc tac tgg cag gag cag gat ttg gag 270
 Gly Ala Asn Leu Ser Gln Asp Gly Tyr Trp Gln Glu Gln Asp Leu Glu
 25 30 35
 ctg gga act ctg gct cca ctc gac gag gcc atc agc tcc aca gtc tgg 318
 Leu Gly Thr Leu Ala Pro Leu Asp Glu Ala Ile Ser Ser Thr Val Trp
 40 45 50
 agc agc cct gac atg ctg gcc agt caa gac agc cag ccc tgg aca tct 366
 Ser Ser Pro Asp Met Leu Ala Ser Gln Asp Ser Gln Pro Trp Thr Ser
 55 60 65 70
 gat gaa aca gtg gtg gct ggt ggc acc gtg gtg ctc aag tgc caa gtg 414
 Asp Glu Thr Val Val Ala Gly Gly Thr Val Val Leu Lys Cys Gln Val
 75 80 85
 aaa gat cac gag gac tca tcc ctg caa tgg tct aac cct gct cag cag 462
 Lys Asp His Glu Asp Ser Ser Leu Gln Trp Ser Asn Pro Ala Gln Gln
 90 95 100
 act ctc tac ttt ggg gag aag aga gcc ctt cga gat aat cga att cag 510
 Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp Asn Arg Ile Gln
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 ctg gtt acc tct acg ccc cac gag ctc agc atc agc atc agc aat gtg 558
 Leu Val Thr Ser Thr Pro His Glu Leu Ser Ile Ser Ile Ser Asn Val
 120 125 130

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aag gcc tac tac acc ctc aat gtt aat gac ccc agt ccg gtg ccc tcc Lys Ala Tyr Tyr Thr Leu Asn Val Asn Asp Pro Ser Pro Val Pro Ser 345 350 355	1230
tcc tcc agc acc tac cac gcc atc atc ggt ggg atc gtg gct ttc att Ser Ser Ser Thr Tyr His Ala Ile Ile Gly Gly Ile Val Ala Phe Ile 360 365 370	1278

gtc ttc ctg ctg ctc atc atg ctc atc ttc ctt ggc cac tac ttg atc 1326
 Val Phe Leu Leu Leu Ile Met Leu Ile Phe Leu Gly His Tyr Leu Ile
 375 380 385 390

cgg cac aaa gga acc tac ctg aca cat gag gca aaa ggc tcc gac gat 1374
 Arg His Lys Gly Thr Tyr Leu Thr His Glu Ala Lys Gly Ser Asp Asp
 395 400 405

gct cca gac gcg gac acg gcc atc atc aat gca gaa ggc ggg cag tca 1422
 Ala Pro Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu Gly Gly Gln Ser
 410 415 420

gga ggg gac gac aag aag gaa tat ttc atc tagaggcgcc tgcccacttc 1472
 Gly Gly Asp Asp Lys Lys Glu Tyr Phe Ile
 425 430

ctgcgcccc caggggccct gtggggactg ctggggccgt caccaaccg gacttgtaca 1532

gagcaaccgc agggccgccc ctcccgcttg ctcccagcc caccacccc cctgtacaga 1592

atgtctgctt tgggtgcggt tttgtactcg gtttggaatg gggagggagg agggcggggg 1652

gaggggaggg ttgcctcag ccctttccgt ggcttctctg catttgggtt attattattt 1712

ttgtaacaat cccaaatcaa atctgtctcc aggctggaga ggcaggagcc ctggggtgag 1772

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Gln Glu Gln Asp Leu Glu Leu Gly Thr Leu Ala Pro Leu Asp Glu Ala
 35 40 45

Ile Ser Ser Thr Val Trp Ser Ser Pro Asp Met Leu Ala Ser Gln Asp
 50 55 60

Ser Gln Pro Trp Thr Ser Asp Glu Thr Val Val Ala Gly Gly Thr Val
 65 70 75 80

Val Leu Lys Cys Gln Val Lys Asp His Glu Asp Ser Ser Leu Gln Trp
 85 90 95

Ser Asn Pro Ala Gln Gln Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu
 100 105 110

Arg Asp Asn Arg Ile Gln Leu Val Thr Ser Thr Pro His Glu Leu Ser
 115 120 125

Ile Ser Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu Tyr Thr Cys

130	135	140
Ser Ile Phe Thr Met	Pro Val Arg Thr Ala	Lys Ser Leu Val Thr Val
145	150	155 160
Leu Gly Ile Pro Gln	Lys Pro Ile Ile Thr	Gly Tyr Lys Ser Ser Leu
165	170	175
Arg Glu Lys Asp Thr	Ala Thr Leu Asn Cys	Gln Ser Ser Gly Ser Lys
180	185	190
Pro Ala Ala Arg Leu	Thr Trp Arg Lys Gly	Asp Gln Glu Leu His Gly
195	200	205
Glu Pro Thr Arg Ile	Gln Glu Asp Pro Asn	Gly Lys Thr Phe Thr Val
210	215	220
Ser Ser Ser Val Thr	Phe Gln Val Thr Arg	Glu Asp Asp Gly Ala Ser
225	230	235 240
Ile Val Cys Ser Val	Asn His Glu Ser Leu	Lys Gly Ala Asp Arg Ser
245	250	255
Thr Ser Gln Arg Ile	Glu Val Leu Tyr Thr	Pro Thr Ala Met Ile Arg
260	265	270
Pro Asp Pro Pro His	Pro Arg Glu Gly Gln	Lys Leu Leu Leu His Cys
275	280	285
Glu Gly Arg Gly Asn	Pro Val Pro Gln Gln	Tyr Leu Trp Glu Lys Glu
290	295	300
Gly Ser Val Pro Pro	Leu Lys Met Thr Gln	Glu Ser Ala Leu Ile Phe
305	310	315 320
Pro Phe Leu Asn Lys	Ser Asp Ser Gly Thr	Tyr Gly Cys Thr Ala Thr
325	330	335
Ser Asn Met Gly Ser	Tyr Lys Ala Tyr Tyr	Thr Leu Asn Val Asn Asp
340	345	350
Pro Ser Pro Val Pro	Ser Ser Ser Ser Thr	Tyr His Ala Ile Ile Gly
355	360	365
Gly Ile Val Ala Phe	Ile Val Phe Leu Leu	Leu Ile Met Leu Ile Phe
370	375	380
Leu Gly His Tyr Leu	Ile Arg His Lys Gly	Thr Tyr Leu Thr His Glu
385	390	395 400
Ala Lys Gly Ser Asp	Asp Ala Pro Asp Ala	Asp Thr Ala Ile Ile Asn
405	410	415
Ala Glu Gly Gly Gln	Ser Gly Gly Asp Asp	Lys Lys Glu Tyr Phe Ile
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gccagcgccc agccagggag ccggccggga agcgcg atg ggg gcc cca gcc gcc	174
Met Gly Ala Pro Ala Ala	
1 5	
tcg ctc ctg ctc ctg ctc ctg ctg ttc gcc tgc tgc tgg gcg ccc ggc	222
Ser Leu Leu Leu Leu Leu Leu Leu Phe Ala Cys Cys Trp Ala Pro Gly	
10 15 20	
ggg gcc aac ctc tcc cag gac gac agc cag ccc tgg aca tct gat gaa	270
Gly Ala Asn Leu Ser Gln Asp Asp Ser Gln Pro Trp Thr Ser Asp Glu	
25 30 35	
aca gtg gtg gct ggt ggc acc gtg gtg ctc aag tgc caa gtg aaa gat	318
Thr Val Val Ala Gly Gly Thr Val Val Leu Lys Cys Gln Val Lys Asp	
40 45 50	
cac gag gac tca tcc ctg caa tgg tct aac cct gct cag cag act ctc	366
His Glu Asp Ser Ser Leu Gln Trp Ser Asn Pro Ala Gln Gln Thr Leu	
55 60 65 70	
tac ttt ggg gag aag aga gcc ctt cga gat aat cga att cag ctg gtt	414
Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp Asn Arg Ile Gln Leu Val	
75 80 85	
acc tct acg ccc cac gag ctc agc atc agc atc agc aat gtg gcc ctg	462
Thr Ser Thr Pro His Glu Leu Ser Ile Ser Ile Ser Asn Val Ala Leu	
90 95 100	
gca gac gag ggc gag tac acc tgc tca atc ttc act atg cct gtg cga	510
Ala Asp Glu Gly Glu Tyr Thr Cys Ser Ile Phe Thr Met Pro Val Arg	
105 110 115	
act gcc aag tcc ctc gtc act gtg cta gga att cca cag aag ccc atc	558
Thr Ala Lys Ser Leu Val Thr Val Leu Gly Ile Pro Gln Lys Pro Ile	
120 125 130	
atc act ggt tat aaa tct tca tta cgg gaa aaa gac aca gcc acc cta	606
Ile Thr Gly Tyr Lys Ser Ser Leu Arg Glu Lys Asp Thr Ala Thr Leu	
135 140 145 150	
aac tgt cag tct tct ggg agc aag cct gca gcc cgg ctc acc tgg aga	654
Asn Cys Gln Ser Ser Gly Ser Lys Pro Ala Ala Arg Leu Thr Trp Arg	
155 160 165	
aag ggt gac caa gaa ctc cac gga gaa cca acc cgc ata cag gaa gat	702
Lys Gly Asp Gln Glu Leu His Gly Glu Pro Thr Arg Ile Gln Glu Asp	
170 175 180	
ccc aat ggt aaa acc ttc act gtc agc agc tcg gtg aca ttc cag gtt	750
Pro Asn Gly Lys Thr Phe Thr Val Ser Ser Ser Val Thr Phe Gln Val	
185 190 195	

acc cgg gag gat gat ggg gcg agc atc gtg tgc tct gtg aac cat gaa	798
Thr Arg Glu Asp Asp Gly Ala Ser Ile Val Cys Ser Val Asn His Glu	
200 205 210	
tct cta aag gga gct gac aga tcc acc tct caa cgc att gaa gtt tta	846
Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser Gln Arg Ile Glu Val Leu	
215 220 225 230	
tac aca cca act gcg atg att agg cca gac cct ccc cat cct cgt gag	894
Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp Pro Pro His Pro Arg Glu	
235 240 245	
ggc cag aag ctg ttg cta cac tgt gag ggt cgc ggc aat cca gtc ccc	942
Gly Gln Lys Leu Leu Leu His Cys Glu Gly Arg Gly Asn Pro Val Pro	
250 255 260	
cag cag tac cta tgg gag aag gag ggc agt gtg cca ccc ctg aag atg	990
Gln Gln Tyr Leu Trp Glu Lys Glu Gly Ser Val Pro Pro Leu Lys Met	
265 270 275	
acc cag gag agt gcc ctg atc ttc cct ttc ctc aac aag agt gac agt	1038
Thr Gln Glu Ser Ala Leu Ile Phe Pro Phe Leu Asn Lys Ser Asp Ser	
280 285 290	
ggc acc tac ggc tgc aca gcc acc agc aac atg ggc agc tac aag gcc	1086
Gly Thr Tyr Gly Cys Thr Ala Thr Ser Asn Met Gly Ser Tyr Lys Ala	
295 300 305 310	
tac tac acc ctc aat gtt aat gac ccc agt ccg gtg ccc tcc tcc tcc	1134
Tyr Tyr Thr Leu Asn Val Asn Asp Pro Ser Pro Val Pro Ser Ser Ser	
315 320 325	
agc acc tac cac gcc atc atc ggt ggg atc gtg gct ttc att gtc ttc	1182
Ser Thr Tyr His Ala Ile Ile Gly Gly Ile Val Ala Phe Ile Val Phe	
330 335 340	
ctg ctg ctc atc atg ctc atc ttc ctt ggc cac tac ttg atc cgg cac	1230
Leu Leu Leu Ile Met Leu Ile Phe Leu Gly His Tyr Leu Ile Arg His	
345 350 355	
aaa gga acc tac ctg aca cat gag gca aaa ggc tcc gac gat gct cca	1278
Lys Gly Thr Tyr Leu Thr His Glu Ala Lys Gly Ser Asp Asp Ala Pro	
360 365 370	
gac gcg gac acg gcc atc atc aat gca gaa ggc ggg cag tca gga ggg	1326
Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu Gly Gly Gln Ser Gly Gly	
375 380 385 390	
gac gac aag aag gaa tat ttc atc tagaggcgcc tgcccacttc ctgcgcccc	1380
Asp Asp Lys Lys Glu Tyr Phe Ile	
395	
cagggggccct gtggggactg ctggggccgt caccaaccgc gacttgtaca gagcaaccgc	1440
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<212> PRT

<213> homo sapiens

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Pro Trp Thr Ser Asp Glu Thr Val Val Ala Gly Gly Thr Val Val Leu
35 40 45

Lys Cys Gln Val Lys Asp His Glu Asp Ser Ser Leu Gln Trp Ser Asn
50 55 60

Pro Ala Gln Gln Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp
65 70 75 80

Asn Arg Ile Gln Leu Val Thr Ser Thr Pro His Glu Leu Ser Ile Ser
85 90 95

Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu Tyr Thr Cys Ser Ile
100 105 110

Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu Val Thr Val Leu Gly
115 120 125

Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys Ser Ser Leu Arg Glu
130 135 140

Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser Gly Ser Lys Pro Ala
145 150 155 160

Ala Arg Leu Thr Trp Arg Lys Gly Asp Gln Glu Leu His Gly Glu Pro
165 170 175

Thr Arg Ile Gln Glu Asp Pro Asn Gly Lys Thr Phe Thr Val Ser Ser
180 185 190

Ser Val Thr Phe Gln Val Thr Arg Glu Asp Asp Gly Ala Ser Ile Val
195 200 205

Cys Ser Val Asn His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser
210 215 220

Gln Arg Ile Glu Val Leu Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp
225 230 235 240

Pro Pro His Pro Arg Glu Gly Gln Lys Leu Leu Leu His Cys Glu Gly
245 250 255

Arg Gly Asn Pro Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu Gly Ser

260					265					270					
Val	Pro	Pro	Leu	Lys	Met	Thr	Gln	Glu	Ser	Ala	Leu	Ile	Phe	Pro	Phe
	275						280					285			
Leu	Asn	Lys	Ser	Asp	Ser	Gly	Thr	Tyr	Gly	Cys	Thr	Ala	Thr	Ser	Asn
	290					295					300				
Met	Gly	Ser	Tyr	Lys	Ala	Tyr	Tyr	Thr	Leu	Asn	Val	Asn	Asp	Pro	Ser
305					310					315					320
Pro	Val	Pro	Ser	Ser	Ser	Ser	Thr	Tyr	His	Ala	Ile	Ile	Gly	Gly	Ile
				325					330					335	
Val	Ala	Phe	Ile	Val	Phe	Leu	Leu	Leu	Ile	Met	Leu	Ile	Phe	Leu	Gly
			340					345					350		
His	Tyr	Leu	Ile	Arg	His	Lys	Gly	Thr	Tyr	Leu	Thr	His	Glu	Ala	Lys
	355						360					365			
Gly	Ser	Asp	Asp	Ala	Pro	Asp	Ala	Asp	Thr	Ala	Ile	Ile	Asn	Ala	Glu
	370					375					380				
Gly	Gly	Gln	Ser	Gly	Gly	Asp	Asp	Lys	Lys	Glu	Tyr	Phe	Ile		
385					390					395					